

Sewer -Discussion Item
County Commission Committee Meeting
September 19, 2017



1972 EPA Report

Evaluation of Waste Sources and Water Quality In Memphis

- ▣ The City of Memphis has no municipal waste treatment system and municipal and industrial waste collected by the Nonconnah and Wolf Interceptors are discharged, untreated, directly into the Mississippi River.
- ▣ 2 Large secondary treatment plants are planned.
 - South Plant (85 MGD Design Capacity) is under construction and scheduled to be completed by July 1974
 - North Plant (135 MGD) to begin construction in January 1973 and to be completed by December 1976. (Currently treats about 80 MGD)
 - A large scale “regional interceptor system” is under construction to serve those plants.

1972 EPA Report (Cont'd)

- ▣ In 1970 about 90 MGD of mixed municipal and industrial waste is discharged from six large Memphis interceptor outfalls into the Mississippi with 43 MGD of industrial waste discharged to tributary streams in the Memphis Metro area.
- ▣ Recommends legal action be taken for violations of the Rivers and Harbors Act of 1899 that prohibits discharge of refuse into navigable waters without a permit.

1972 City Sewer Interceptors

- ▣ South Plant will serve the Nonconnah Creek, Packing House, President's Island Interceptors and the Horn Lake Creek area served by an interim treatment facility.
- ▣ North Plant will serve the Wolf River , Front Street and Looshatchie River interceptors.

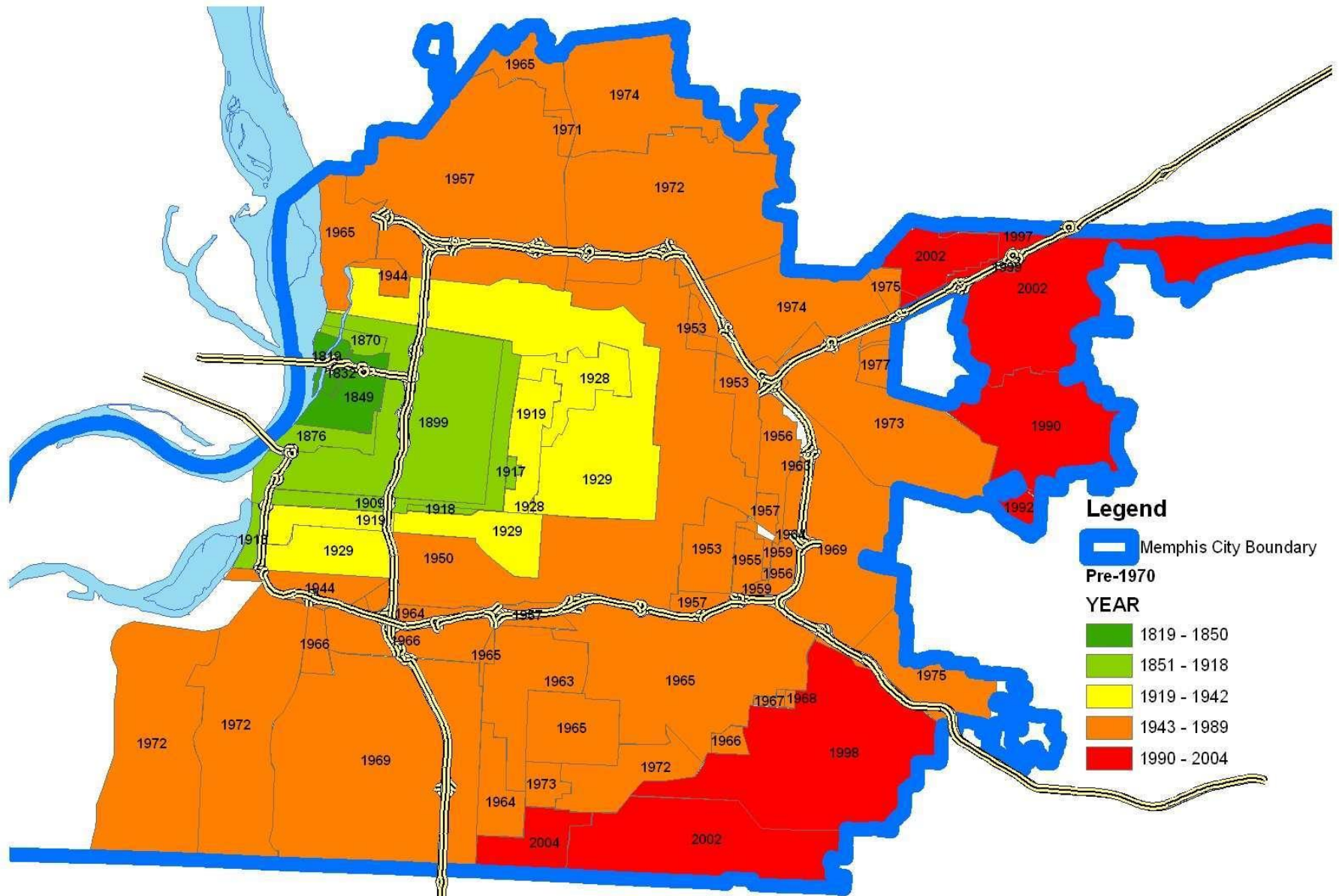
Original Planning And Construction Grants Section 201 and 208 of Federal Water Pollution Control Act Amendments of 1972

- ▣ By 1970 Federal Statutes required that Regional Basin Plans be established before a municipality could receive construction grants for waste water treatment facilities and regional sewer lines (interceptors)
- ▣ In 1972 these were clarified and two plans developed.
 - Section 208 involved areawide plans within a planning basin while Section 201 narrows the scope to deal with the planning of the actual facilities identified by the 208 plan.
 - 208 Plans had a 20 year planning horizon.


Federal Water Pollution Control Act as of 1970

- ▣ Pre-1972 Grants under Section 8 provided local government of up to 55% of the cost of construction of sewage and waste treatment facilities.
- ▣ 1972 amendments allowed up to 75%
- ▣ Section 204(b) required grants could not be approved, unless applicants had adopted a system by which each user paid its proportionate share of O&M costs and industrial users had to also pay their proportionate share of capital costs.

City Annexation



Legend

 Memphis City Boundary

Pre-1970

YEAR

 1819 - 1850

 1851 - 1918

 1919 - 1942

 1943 - 1989

 1990 - 2004

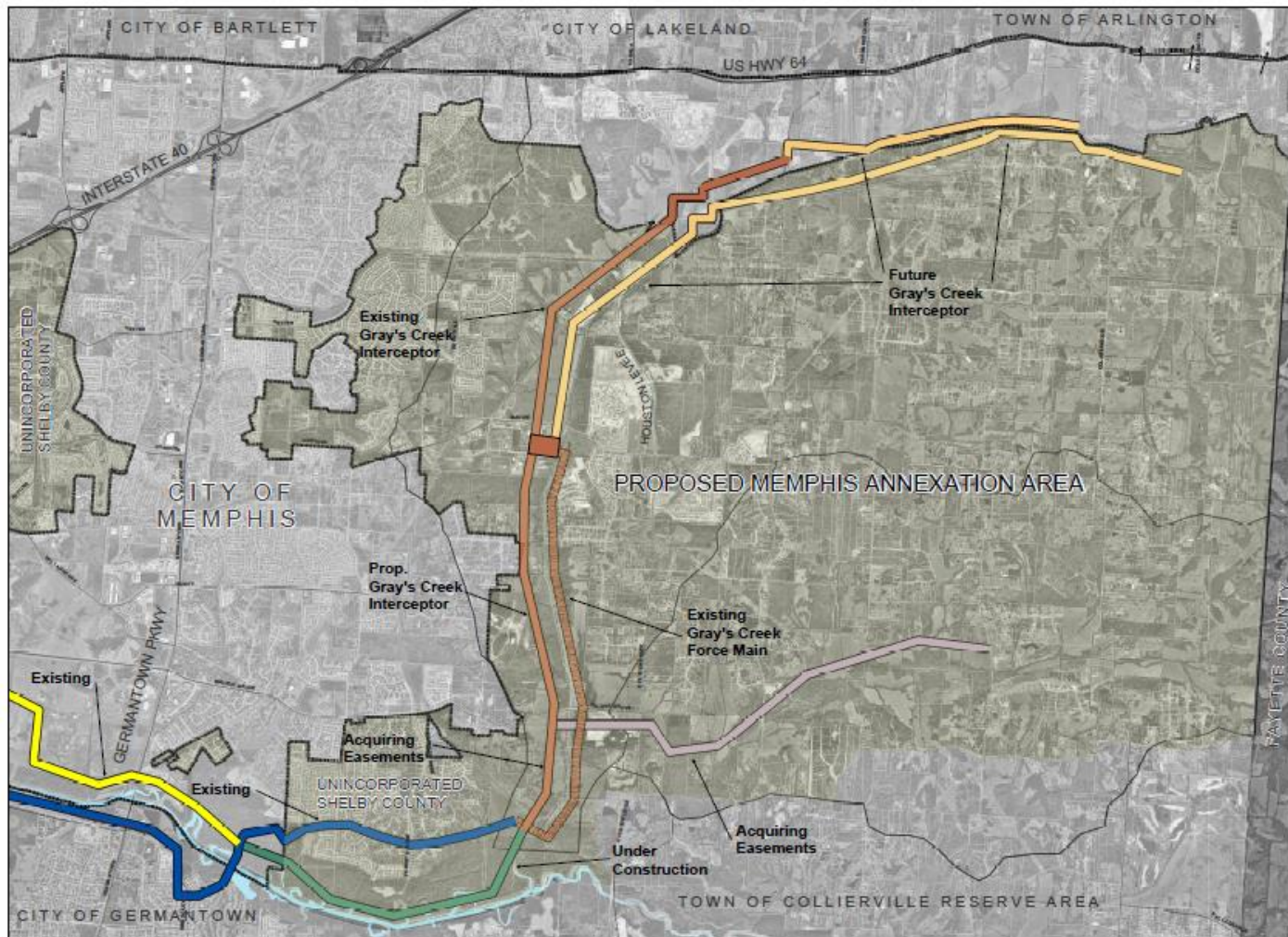


0 1 2 4 Miles

Map Prepared By:
Housing and Community Development
June 16, 2009

1996 Balanced Growth Agreement

- ▣ The City agreed to “build the Grays Creek Outfall sewer” in approximately 5 years and improve the Wolf River interceptor to handle this increased load to provide sewer service to the portion of Grays Creek that lies within the Memphis Reserve Annexation Area.
- ▣ Required Developers to execute a petition for annexation into the City in return for service and pay 50% of cost from extension fees.
- ▣ County agrees, among other things, to fund Commercial Demolition Program (\$500,000 annually for 4 years) and invest up to \$2 Million to establish a Community Development Financial Institution or Program



Memphis Sewer Infrastructure

Legend

- GRAY'S CREEK INT. DISTRICT 1
- GRAY'S CREEK INT. DISTRICT 2
- WOLF RIVER PHASE 4
- EXIST. WOLF RIVER INTERCEPTOR
- MARY'S CREEK
- WOLF RIVER PHASE 3C
- SEWER BASIN RIDGE LINE
- CITY OF MEMPHIS LIMITS

0 0.5 1 2
Miles



February 2, 2012
Map Created By:
Sewer Design Dept.
City of Memphis Engineering Division

City Of Memphis Code of Ordinances

Sec. 33-66. Urban Service Boundary; definition and amendment.

The Urban Service Boundary is defined by the Memphis 2000 Policy Plan and Map adopted by the Memphis City Council in September 1981 or its most recent adopted amendment.

The Memphis and Shelby County Office of Planning and Development (O.P.D.) and the approving authority shall review the Urban Service Boundary at intervals not to exceed five (5) years, and recommendations for amendments, if any, shall be forwarded to the Memphis City Council for consideration.

MEMPHIS 2000 POLICY PLAN MAP

LEGEND

- URBAN SERVICE BOUNDARY** - The limits of the area to be served by publicly funded urban level services and facilities until the year 2000. The area includes sufficient vacant land to meet the projected land use needs to the year 2000. The area outside the Urban Service Boundary is to be served with rural level services and facilities.
- TRANSITWAYS** - Major roads selected to be primary bus service routes along which higher density land uses, supportive of mass transit, will be encouraged.
- TRANSITWAY CONNECTORS** - Those designated portions of the Interstate system which connect Transitways and interchanges.
- URBAN CENTERS** - Centralized locations for providing a variety of services in close proximity to the service population. Designated Urban Centers will contain a mixture of residential, commercial, office and governmental uses and emphasize internally oriented design and higher densities. The core for each Center is the existing commercial and office zoning which can be expanded to implement the Urban Center concept.
- REGIONAL CENTERS** - Centralized locations of shopping and service uses with a minimum of 300,000 square feet of retail space and internal orientation.
- INDUSTRIAL DISTRICTS** - Existing industrial zoning within the Urban Service Boundary and the proposed expansion of Presidents Island and Memphis International Airport. Future Industrial districts may be added if they can be cost effectively served and are compatible with surrounding uses.
- FLOODWAY** - The watercourse channel and adjacent land areas which must be reserved to carry the base flood without cumulatively increasing the base flood elevation more than the designated lengths. (For exact boundaries of floodway and floodplain consult the Federal Insurance Administration's local flood maps.)
- FLOODPLAIN** - The area within the 100-year floodline as delineated by the National Flood Insurance Program.
- MIXED USE DISTRICTS** - Designated areas, along Transitways or at interstate interchanges, to be developed or redeveloped with a variety of compatible high intensity uses, subject to performance standards.
- MUNICIPALITIES** - Incorporated areas of Shelby County and their reserve areas (excluding Memphis).

Adopted October, 1981

Scale: 1" = 1 mile

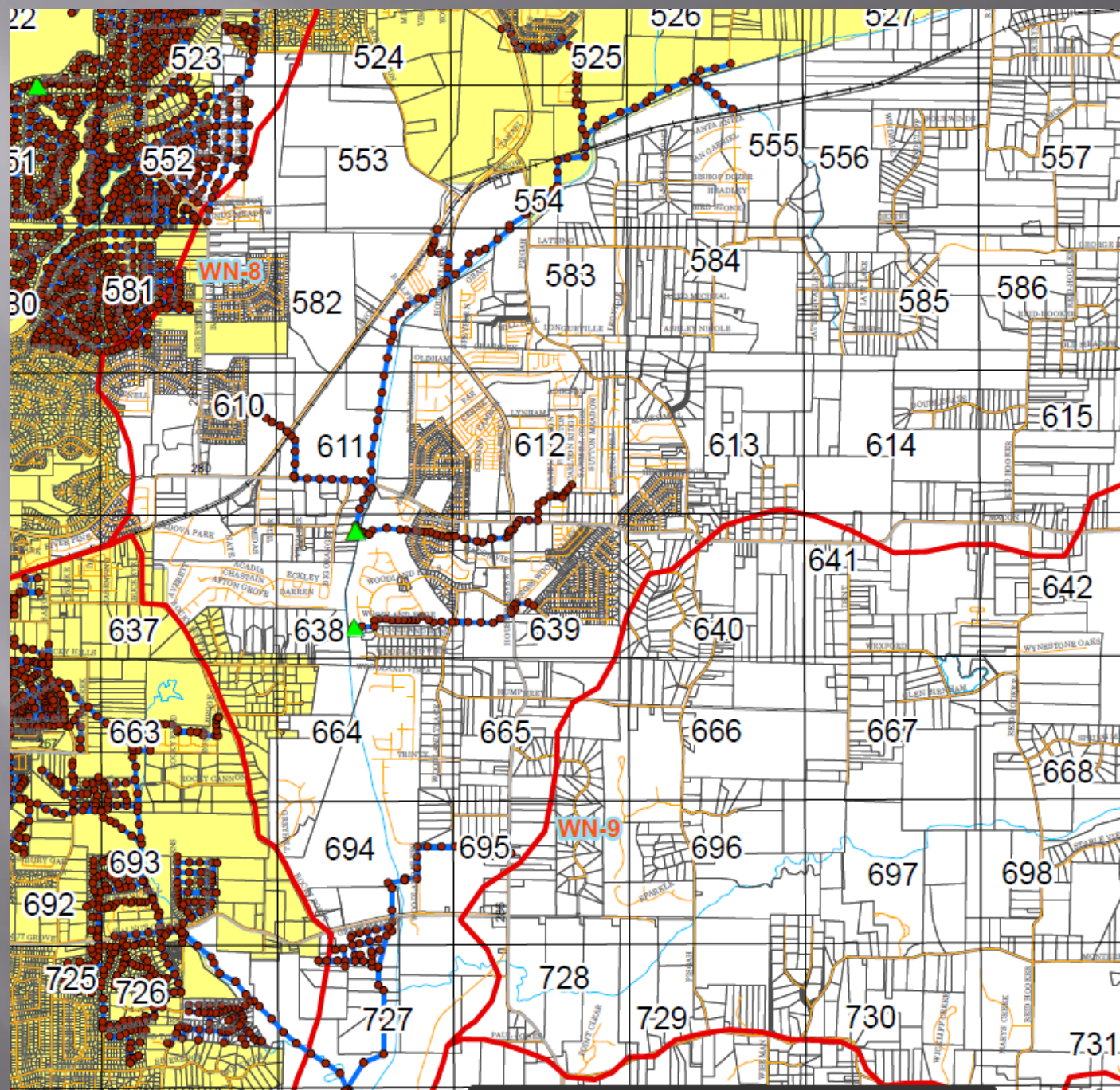
Map showing Memphis, Tennessee, and surrounding areas, including the Mississippi River, floodplains, transitways, and urban centers.

Adopted October, 1981

Base Map Prepared By Houghton & Shelby County

Current City Sewer System

- ▣ The City of Memphis owns, operates, and maintains approximately
 - 2,600 miles of sanitary sewers,
 - 100 lift stations, and
 - 80,000 manholes.
 - Treats over 60 billion gallons of water per year
 - Disposes of over 215 MM pounds of bio-solids annually
 - <http://shelbycountyttn.gov/DocumentCenter/View/29940>



2012 DOJ Consent Decree Elements

- ▣ Sanitary Sewer Overflow Response Plan
- ▣ FOG (Fats, Oils and Grease) Management Plan
- ▣ Numerous lift stations to be equipped with Supervisory Control and Data Acquisition Systems
- ▣ North Treatment Plant Foam Study and Outfall Improvements Work Plan
- ▣ Gravity Sewer System O&M Program
- ▣ Inter-Jurisdictional Agreement Program
 - For agreements that cover the collection, conveyance and treatment of sewage by Memphis from municipal satellite sewer systems.

Consent Decree (Cont'd)

- ▣ Continuing Sewer Assessment Program so that on average 10% of the sewer system is assessed each year
- ▣ Infrastructure Rehabilitation Program